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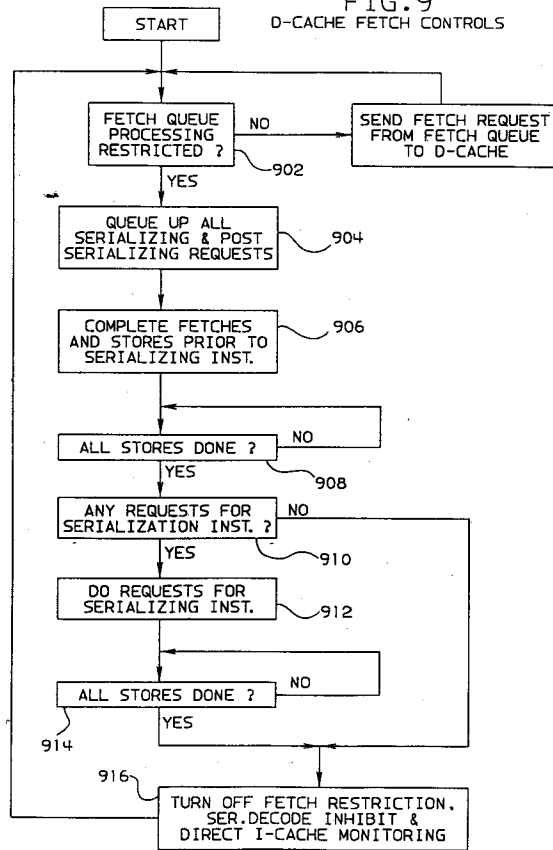
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**W-7030 Böblingen(DE)**(54) **Overlapped serialization.**

(57) A system and method whereby a central processor can continue operation beyond a serialization point before the architecture defines that it is permissible to do so. According to the system and method, it is ascertained whether correct results are being achieved after the serializing point. If some doubt develops about the correctness of the results, the processor is returned to its status at the serialization point and the processing is repeated. In one embodiment, correctness of results is determined by way of a monitoring mechanism which depends on the fact that the interactions between CPUs are confined to references to storage. The operations which are performed prior to the time that the architecture allows them, are restricted to ones which depend on

fetches made from storage. The needed assurance of correct operation is gained by monitoring the storage locations from which fetches are made on behalf of instructions which logically follow the serializing operation, but which are made prior to the time that fetching is allowed to resume. If those storage locations are not changed during the time between when the first such fetch is actually made from one of them, and the time that fetching is allowed to resume, then the results of the processing which was done by the CPU (based on those fetches) must be exactly the same as if all of the fetches and all of the processing was done in a single instant at the moment that the fetches became allowed.

**EP 0 495 165 A3**

FIG. 9  
D-CACHE FETCH CONTROLS



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## EUROPEAN SEARCH REPORT

Application Number

EP 91 11 8905

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	EP-A-0 268 264 (HITACHI, LTD.) * column 2, line 48 - column 3, line 46 * ---		G06F9/38
A	EP-A-0 302 999 (INTERNATIONAL BUSINESS MACHINES CORPORATION) * column 3, line 9 - column 4, line 3 * ---		
A	I.E.E.E. TRANSACTIONS ON COMPUTERS vol. C-36, no. 12, December 1987, NEW YORK, NY, USA pages 1496 - 1514; W.-M. W. HWU ET AL: 'Checkpoint Repair for High-Performance Out-of-Order Execution Machines' * page 1499, right column, paragraph 3 - page 1500, right column, paragraph 1; figures 3-5 * ---		
D,A	US-A-4 901 233 (J. S. LIPTAY) * column 1, line 26 - column 2, line 44 * -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G06F
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 04 JUNE 1992	Examiner ABRAM R.
<b>CATEGORY OF CITED DOCUMENTS</b>			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	